

DOS XLTM

A Disk Operating System
for Atari Computers



OSSTM Precision Software Tools

A REFERENCE MANUAL FOR

DOS XL version 2.20

A DISK OPERATING SYSTEM FOR ATARI COMPUTERS

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PREFACE

DOS XL is the result of the efforts of several persons, and we believe that proper credit should be given. The original Apple version of the console processor (CP) and the original version ("version 2") of the File Manager System (which is, of course, identical with Atari's DOS 2.0S) were written by Paul Laughton, ex of Shepardson Microsystems, Inc., who also authored the original Apple DOS (version 3.1). The current versions of all other portions are primarily the work of Mark Rose, of OSS, with the collaboration of Bill Wilkinson and Mike Peters.

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Section 1: INTRODUCTION

This manual is an addendum to the manual for OS/A+, which DOS XL supercedes. At times throughout this addendum, you will be referred to specific sections of the OS/A+ manual for more information.

1.1 System requirements

DOS XL requires 48K of memory, and will work on all Atari computers. Although DOS XL is designed for all users, it enhances the usage of OSS SuperCartridges by expanding program memory.

1.2 What is a DOS?

The purpose of DOS XL is to provide a way for your Atari computer to communicate with your disk drives, printer, and other peripherals. DOS XL contains commands and utilities which allow you to:

1. Organize information into files on your diskettes.
2. Access this information with ease and precision.
3. Make use of other applications programs (e.g. BASIC XL, MAC/65, BUG/65, Atari BASIC, etc.).
4. Pass control of the computer between the Operating System (DOS XL), Cartridges, and programs stored on disk.

DOS XL is the only DOS for Atari computers which lets you choose either an easy-to-use menu or a versatile command processor. When you use DOS XL in conjunction with the OSS SuperCartridge or the Atari XL computers, you also gain up to 5K of user memory.

1.3 Disk Files

Much like a record or a cassette tape can hold a number of songs, a single diskette can hold many distinct files of information (up to 64 files per diskette). These files can hold programs or data in text or other form. Unlike files stored on a cassette, each disk file must have a name associated with it.

The rules for valid file names are:

- One to eight characters in length
- Optionally followed by a period and a one to three character extender.
- Only characters A-Z and 0-9 are allowed.
- The first character must be a letter from A-Z.

Examples of valid file names:

GEORGE
TEMP.ABC
PROG1.SAV
SORT123
COPY.COM

The portion of the file name preceding the period is called the primary file name, and the optional portion of the file name following the period is called the extender. Although any combination of valid characters may be used for both sections of the file name, it is recommended that the extender be dedicated to indentifying the type of information contained in the file. The following extenders are suggested:

Extender:	Suggested usage:	Example:
SAV	"SAVE"d BASIC file	GEORGE.SAV
LIS	"LIST"ed BASIC file	PROG1.LIS
ACT	ACTION! source file	MIKE.ACT
M65	"SAVE"d MAC/65 file	SORT1.M65
OBJ	binary object file	BILL.OBJ
COM	DOS XL utility program	COPY.COM
EXC	DOS XL execute file	STARTUP.EXC
SYS	system program - reserved for DOS XL	

In most cases, file names must be preceded by a device specifier which tells the system on which drive to search for a particular file. The format of a device specifier is:

Dn:

(or)

D:

where n is a digit from 1 to 4, depending on how many drives you have. If you just specify D:, drive 1 is assumed (this is very useful if you only have one drive). Here are several examples of complete file names as you would type them into the computer:

File name:	Meaning:
D1:GEORGE	file GEORGE on drive 1
D2:MIKE.ACT	file MIKE.ACT on drive 2
D:TEMP.LIS	file TEMP.LIS on drive 1

In some cases file names may contain the "wild-card" characters '?' and '*'. A question mark ('?') will match any character in a file name, while an asterisk ('*') will match any string of zero or more characters. For example, *AB.C?? will match XAB.CXX AB.CUR BEOBAB.CNN etc. Wild-card characters may be used in the following DOS XL menu commands:

Files on Disk
Copy Files
Erase Files
Protect Files
Unprotect Files

See section 3 for more information on these menu commands.

----- 1.4 Other devices -----

The Atari Personal Computer considers everything except the guts of the computer (i.e. the RAM, ROM, and processing chips) to be external devices. Some of these devices come with the computer, for example the Keyboard and the Screen Editor. Some of the other devices are Disk Drive, Program Recorder (cassette), and Printer. When prompted for a file name by DOS XL, you need not always enter the name of a disk file. Other devices are referred to by names consisting of a single letter optionally followed by a single digit used to define a specific device when more than one of the same kind exist (e.g., D1: or D2:). The device name must be followed by a colon. The following is a list of device names which are implemented under standard DOS XL:

C: The Program Recorder -- handles both Input and Output. You can use the recorder as either an input or output device, but never as both simultaneously.

D1: - D8: Disk Drive(s) -- handles both Input and Output. Unlike C:, disk drives can be used for input and output simultaneously. You are also required to specify a file name with this device, as previously mentioned.

NOTE: if you use D: without a drive number, D1: is assumed.

E: Screen Editor -- handles both Input and Output. The screen editor simulates a text editor/word processor using the keyboard as

input and the display (TV or Monitor) as output. This is the editor you use when typing in a BASIC XL program. When you specify no channel while doing I/O, E: is used because the channel defaults to 0, which is the channel BASIC XL opens for E:.

K: Keyboard -- handles Input only. This allows you access to the keyboard without using E:.

P: Parallel Port on the 850 Module -- handles Output only. Usually P: is used for a parallel printer, so it has come to mean 'Printer' as well as 'Parallel Port'.

R1: - R4: The four RS-232 Serial Ports on the Atari 850 Interface -- handle both Input and Output. These devices enable the Atari system to interface to RS-232 compatible serial devices like terminals, plotters, and modems.

NOTE: if you use R: without a device number, R1: is assumed.

S: The Screen Display (either TV or Monitor) -- handles both Input and Output. This device allows you to do I/O of either characters or graphics points with the screen display. The cursor is used to address a screen position.

----- 1.5 Glossary of terms -----

The following terms are used throughout the rest of this manual. Their definitions are included here so that you may familiarize yourself with them before proceeding. Please refer back to this section to clarify concepts introduced later in the manual.

Term:	Definition:
-----	-----
DOS	An acronym for Disk Operating System.
boot booting	The process of loading DOS XL or another system into memory when you power on your computer.
master diskette master disk	The DOS XL diskette you received with your purchase of DOS XL, or a duplicate thereof.

bootable diskette	Any diskette which contains the file DOS.SYS. Such a disk can be used to boot DOS XL into memory. If you are using a SuperCartridge, you should also have DOSXL.SYS on that disk.
file name	The string of characters used to refer to a specific file on a specific drive (e.g., D:GEORGE).
filespec	A file name which may contain the wild-card characters '?' and '*' (e.g., D:**.*, D2:*.CO?).
prompt	Any message from DOS XL instructing or asking you to type a response.

Section 2: GETTING STARTED WITH DOS XL

2.1 Booting your DOS XL master disk

The first operation you should perform after opening your DOS XL package is to fill out your license agreement and mail it to OSS. This action puts you on our mailing list for a quarterly newsletter announcing new products, updates to existing products, solutions to problems with our products, and answers to common user questions. Once this is done, you should boot your DOS XL master diskette as follows:

- 1) Connect your disk drive and any other peripherals to your Atari computer following the manufacturers instructions.
- 2) Turn on your peripherals and your monitor or television.
- 3) Insert your DOS XL master disk into the disk drive (or drive 1 if you have more than one drive).
- 4) Now plug a cartridge, if you wish, into the cartridge slot.
- 5) Finally, turn on your Atari computer.

The disk drive will be accessed, and after a time the DOS XL copyright message will appear at the top of the screen. Then, a message will begin to appear, line by line, which begins with "Welcome to DOS XL...". The last line from the startup file is just "MENU". This is a command which instructs DOS XL to load the DOS XL menu. After a few more seconds, the menu program will finish loading, the screen will again clear, and the DOS XL menu will appear.

This text comes from a special file on the disk which is named "STARTUP.EXC". In section 5.3, you can learn how to modify this message or delete it entirely.

2.2 DOS XL command modes

A primary feature of DOS XL is its two modes of command entry. You the user may choose either a menu mode or a command processor. For those of you unfamiliar with other menu driven systems such as Atari DOS, a menu is

simply a list of commands which appear on the screen. The user simply chooses one of the options listed before him. If additional information is required, the user is further prompted by the system for input. In this way, the user need not remember the names of DOS functions; instead, he or she may simply select a command from the list.

The other input mode for DOS commands is the Command Processor mode, or CP. In this mode, the user is not shown a list of commands to choose from. Instead, the user must invoke the DOS commands by name. Although this might at first seem cumbersome, once several commands have been committed to memory, the command mode is much faster and easier to use. Also, certain advanced features of the DOS are available only from the command processor.

By default the user will be presented with the menu mode of command entry. It is recommended that this mode be used exclusively until the user has gained some familiarity of the system. At that time you may, if you wish, read carefully section 4 which describes the use of the DOS XL command processor. After trying out the command mode, you may refer to section 5 in order to modify the system so that the command processor appears by default instead of the menu.

The following section summarizes the differences between the menu and command modes of DOS XL operation.

The DOS XL menu has the following advantages and disadvantages:

Advantages:

- 1) The user need not remember the names of DOS commands. Instead, he or she is prompted at each step for the proper information.
- 2) Those of you already familiar with Atari DOS 2.0s may find the DOS XL menu more comfortable and easier to use.

Disadvantages:

- 1) Using the menu with DOS XL uses about 2K more memory space. However, this is offset by the fact that DOS XL saves you 5K with a supercartridge.

The DOS XL command processor has the following

advantages and disadvantages:

Advantages:

- 1) Once a few commands have been learned, the command mode is faster to use than the menu mode.
- 2) Those users familiar with other operating systems such as Apple DOS, CP/M, UNIX, or OS/A+ will find the command mode more conventional and familiar than the menu mode.
- 3) Unlike the menu mode, the DOS XL command processor uses no extra user memory.

Disadvantages:

- 1) The user is not prompted for input as in the menu mode. Therefore, he or she must learn several basic commands in order to utilize the power of the command mode.

2.3 Selecting menu options

You should now be presented with the DOS XL menu on the screen. It should look like this:

DOS XL MENU version 2.20
copyright (c) 1983 OSS, Inc.

Files on Disk	Protect Files
To Cartridge	Unprotect Files
Copy Files	Rename File
Duplicate Disk	Save Binary
Erase Files	Load Binary
Initialize Disk	Go to Address
Xtended Command	Quit to DOS XL

Enter your selection.

Although this diagram does not show it, the first characters of each of the 12 commands in the list are in inverse video. These characters are those which you would type to select a command. For example, to invoke the "Rename File" command, you would simply type 'R', to the above prompt. For most of the menu commands, extra input is required. The menu will prompt you with appropriate messages whenever you are required to input new data.

Whenever you are prompted by the DOS XL menu to enter a filename or a filespec, you don't always have to specify the device name for the drive. If you do not specify a device name (i.e., D:, D2:, etc.), drive 1 is assumed (D1:). For example, if you typed "GEORGE" as a

filename, the menu would assume that you meant "D1:GEORGE". In general, this is not the case for file names entered while using cartridge based products such as Atari BASIC or OSS BASIC XL.

----- 2.4 Files on the DOS XL master disk -----

In order to insure the integrity of your DOS XL master diskette, you should view the names of the files contained on it. The DOS XL menu of commands should be visible on the screen, and the menu will prompt you:
Enter your selection.

The first command in the menu is "Files on disk". This command allows you to view the names of disk files. First insure that your DOS XL master is still in drive 1. Then select this command as follows:

You type: F

The menu will respond by prompting:
Files on disk
Filespec:

In order to look at all files on the disk,
You type: [RETURN]

The list of files on your master disk will appear and should look like:

```
* DOS      SYS 046
* DOSXL    SYS 046
* MENU     COM 025
* CLRDSK   COM 023
* COPY     COM 075
* DO       COM 003
* DUPDBL   COM 011
* DUPDSK   COM 011
* INIT     COM 006
* INITDBL  COM 023
* RS232    COM 001
* SDCOPY   COM 086
* SYSEQU   ASM 022
* MEM      LIS 066
* RS232FIXCOM 002
  STARTUP  EXC 003
222 FREE SECTORS
```

Each of the files has a primary name and an extension. For example, the file COPY.COM has primary name COPY and extension COM. Note that in the file listing the period

is not shown. Instead, there may be one or more spaces between the primary name and the extension. This format appears ONLY in the file listing. You may never use this form for specifying files. If you are using file extensions, you must use a period with no intervening spaces, as in "D:TEST.LIS".

Notice that all of the files on the master disk except the file "STARTUP.EXC" are preceded by an asterisk in the directory listing. An asterisk preceding a file implies that it has been protected from modification or erasure through the use of the DOS XL menu command "Protect Files". This method can also be used to protect your own files from change or deletion through accidental use of one of the DOS XL commands (see section 3.9 for further information).

----- 2.5 Backing up your DOS XL master disk -----

Now that you have successfully booted your master disk, you should make a backup copy. If your DOS XL master disk should ever fail to operate properly, you may then transfer the files on your backup copy to the master disk, thus restoring the master to a working state.

First, for safety's sake, place a write protect tab over the notch on your DOS XL master disk, if it does not already contain one. This protects the entire diskette from being written to in any way. You should also use write protect tabs to protect your program disks from accidental change when you do not need to write to them.

At this point, the DOS XL menu of 12 commands will be displayed on the screen. The following prompt will appear with the cursor below it:

Enter your selection.

You type: D

This is the command for Duplicate Disk. You will then be asked:

Double density?

Since the DOS XL master disk is single density,

You type: N [RETURN]

The DUPDSK.COM (short for duplicate disk) utility program will be read into memory. The next prompt is:

Source disk (1,2,3,4) :

Normally, you will copy from drive 1 so,
You type: 1 [RETURN]

To the prompt:
Destination disk (1,2,3,4) :

You type: 1 [RETURN]

You will be asked:
Format destination disk (Y/N)?

Most blank diskettes are unformatted. That is, they are not yet prepared to hold disk files. In order to copy files or diskettes to blank diskettes, they must first be formatted. Therefore,
You type: Y [RETURN]

At this point, the DUPDSK utility will ask you to:
Insert source disk into drive 1
And hit RETURN when ready

Your master disk should still be in drive 1 at this point, so just type:
[RETURN]

The light on the front of your disk drive will come on, and the DUPDSK utility will respond by saying:
Reading source disk

After a while, you will be prompted:
Insert destination disk into drive 1
And hit RETURN when ready

The DUPDSK utility has read as much as possible of the source disk into memory. At this time, remove your DOS XL master disk from drive 1 and insert a blank diskette. When this has been done,
You type: [RETURN]

The program will respond:
Formatting destination disk
and, after a while,
Writing destination disk

Most of the time, the total information on a diskette is too large to hold in your Atari's memory at one time. This is the case for your DOS XL disk. Therefore, you will be prompted to repeatedly insert your source and destination disks (the DOS XL master and the blank diskette, respectively) until the duplication is complete. Follow these prompts carefully until the DUPDSK utility responds:

Copy same disk again (Y/N)?

You type: N [RETURN]

The DOS XL menu will then prompt:
Hit RETURN for menu

You type: [RETURN]

At this point, you have successfully made a copy of your DOS XL master disk. First place a write protect tab over the notch on the copy so that it is never accidentally written to. Label the disk appropriately and store it in a safe place so that you can use it if ever your master disk fails to work properly.

----- 2.6 Entering the cartridge -----

At this point, if you wish to enter the cartridge to use BASIC, BASIC XL, ACTION!, or other cartridge based products, you must use a DOS XL menu command.

If you have not already plugged in the desired cartridge, you should turn off your Atari computer and insert it. Then insure that the DOS XL master disk is in drive 1 and turn on the power. The boot process will again take place, putting you in the menu.

To enter the cartridge you must use the "To cartridge" command in the DOS XL menu. To use that command,
You type: T

You will then be in the cartridge, ready for programming.

| If you are using the Atari BASIC cartridge, please |
| refer to chapter 7 of the OS/A+ manual for those |
| commands which may be used from BASIC to access the |
| disk. For those of you already familiar with Atari |
| BASIC under Atari DOS 2.0s, please note that disk |
access is identical under DOS XL.

Section 3: THE DOS XL MENU

The DOS XL menu was designed to be easy to use while allowing the user access to the full power of the Atari computer.

For those users who have previously used Atari DOS, here is a summary of the differences between the DOS XL menu and the Atari DOS menu:

- 1) Loading DOS - The Atari DOS menu must be loaded in from the disk whenever you return to DOS from a cartridge. Due to the slow speed of this process, the DOS XL menu is always resident. This does occupy about 2,000 bytes more memory, but this is more than offset if you are using DOS XL with a SuperCartridge. If you wish to utilize the memory taken up by the menu, you may use the DOS XL command processor, which does not use that memory.
- 2) MEM.SAV - Atari DOS supports the use of a special file in which to save user memory while accessing DOS functions. Because of the extremely slow nature of the MEM.SAV file, DOS XL does not support it.
- 3) Single key commands - The DOS XL menu needs only a single key to access commands, whereas Atari DOS requires a carriage return after the command letter.

3.1 Entering Commands

Whenever the menu is entered, the following list of commands will appear on the screen:

DOS XL MENU version 2.20
copyright (c) 1983 OSS, Inc.

Files on Disk	Protect Files
To Cartridge	Unprotect Files
Copy Files	Rename File
Duplicate Disk	Save Binary
Erase Files	Load Binary
Initialize Disk	Go to Address
Xtended Command	Quit to DOS XL

When the DOS XL menu is visible on the screen, you are prompted:

Enter your selection.

At that point, you should type the first letter of any of the DOS XL menu commands listed on the screen. If more input is required to complete the command, the menu will prompt you for more information. Unless the command loads a utility program, you may abort a command at any time by hitting the ESCAPE key on the upper left of your keyboard. If the command loads a utility program (the commands "Copy Files", "Duplicate Disk", and "Initialize Disk"), you may have to press SYSTEM RESET in order to abort the command.

The following sections describe each menu command in detail. The commands are presented in alphabetical order, NOT the order in which they appear in the menu.

3.2 C - Copy Files

CP equivalent: COPY (OS/A+ manual section 5.6)

The copy command allows you to transfer files between diskettes or to different files on the same diskette. The "Copy Files" command is most useful for copying one or a few files from one diskette to another. If you desire to transfer all or most of the files on a single diskette to another diskette, you should use the "Duplicate Disk" command instead as it will perform the operation much more rapidly.

To use the copy command, select 'C' when the menu prompts you for a command selection. At that time, DOS XL will check for the COPY.COM file on the diskette in drive 1. This is the utility program which performs file transfers. If DOS XL does not find the COPY.COM program, you will be prompted to insert your DOS XL master disk as follows:

Copy Files

Insert MASTER disk and hit RETURN

If you receive this prompt, take out any disk in drive 1 and insert your DOS XL master disk and press the RETURN key.

The menu will then prompt:

Copy Files

From file:

At this point, you should respond with a filespec specifying the file or files to be copied (e.g., D:GEORGE, D2:JUNK.LIS, etc.). For example, if you want to transfer the contents of the file "PROG1" on drive 1 to another diskette, you should type "D1:PROG1".

Notice that wild-cards may be used to refer to files using the COPY utility (e.g., TEMP.*, AB??.COM, etc.). As a special case, if you wish to copy all files on a disk to another disk, just use a filespec of Dn:, where n is the source drive number (e.g., D1:).

The COPY utility will then prompt:

To file:

You should respond with the destination filespec. In most cases you will want to transfer files from one diskette to another without changing their names. In

this case you may refer to the destination filespec as just Dn:, where n is the destination drive number (e.g., D:, D1:, D2:). In the above example, if you wanted to copy "PROG1" to a different diskette and you own only 1 drive, you should type "D1:".

You will then be asked:

Single Drive?

If you own only a single drive as in the above example, or if you are performing this copy to another diskette in the same drive,

You type: Y [RETURN]

In any other case,

You type: N [RETURN]

The COPY.COM utility program will then be loaded from the diskette, and you will be prompted:

Insert disk(s) to be copied
and hit RETURN when ready

Remove your master disk and insert your source disk. If you own more than one drive and are copying to a second drive, insert your destination disk into the proper drive.

You type: [RETURN]

Before each file is copied, you will be asked:

Copy

Dn:filename

to Dn:filename?

If you wish to copy that particular file,

You type: Y [RETURN]

Otherwise,

You type: N [RETURN]

If you choose not to copy a file, a message will be printed to the screen verifying that the file was not copied.

At this point the source file will be read into memory. If you are copying to another disk on the same drive, you will then be prompted to insert the destination disk as follows:

Insert 'to' disk and hit RETURN

If the destination file already exists, you will be asked:

'To' file already exists
OK to overwrite?

If you wish to replace the old file with the source file,

You type: Y [RETURN]

Otherwise,

You type: N [RETURN]

| If the destination file has previously been guarded |
| against modification by using the DOS XL menu |
| "Protect Files" command (i.e., the file is preceded |
| by an asterisk in the "Files on Disk" listing of the |
| disk), the COPY utility program will not be able to |
| overwrite that file. The protection must first be |
| removed using the "Unprotect Files" command before |
that file may be written to.

The COPY utility reads as much as possible of the source file into memory at one time. If the source file is too large to fit into memory and you are copying on a single drive, you will again be prompted:

Insert 'from' disk and hit RETURN

Re-insert your source disk and continue to carefully follow the directions of the prompts until the entire file is copied.

When a file has been completely copied, a verification message will be printed on the screen. When all files have been copied, you will be prompted:

Hit RETURN for menu

To return to the list of menu commands,

You type: [RETURN]

| The "Copy Files" command should not be used to copy |
| from single to double density diskettes, if you own |
| only 1 disk drive. Instead use the "Quit to DOS XL" |
| command to go to the command processor and refer to |
| section 3.10 of the OS/A+ manual. If you have more |
| than one drive, you may use the "Copy Files" command |
| to copy between drives which are operating in |
| different density modes. For more information, see |
section 7, "MOVING TO DOUBLE DENSITY".

----- 3.3 D - Duplicate Disk -----

CP equivalents: DUPDSK (OS/A+ manual section 5.10)
DUPDBL (OS/A+ manual section 5.9)

This command allows you to copy quickly the entire contents of a diskette to another diskette. If you wish to copy only one or just a few files from one diskette to another, or if you need to preserve some of the files already on the disk you wish to copy TO, the "Copy Files" command should be used instead.

| The "Duplicate Disk" command writes entirely new |
| information to the destination diskette, thus |
| erasing completely all files which previously |
| existed there. Carefully select the desired |
| destination diskette to avoid accidentally destroying |
your program disks.

To select the Duplicate Disk command, type 'D' when you are prompted to enter a command selection.

You will then be asked:
Duplicate Disk
Double density?

If your source disk was formatted under single density,
You type: N [RETURN]

If the source disk is double density,
You type: Y [RETURN]

The duplicate disk utility program will be read into memory. The next prompt is:
Source disk (1,2,3,4) :

Normally, you will copy from drive 1 so,
You type: 1 [RETURN]

You will be prompted:
Destination disk (1,2,3,4) :

If you have only a single drive, or you wish to use drive 1 as your destination drive,
You type: 1 [RETURN]

If you wish to use a drive other than 1 for a destination drive,
You type: n [RETURN]

where n is the number of the desired destination drive.

You will be asked:

Format destination disk (Y/N)?

Most blank diskettes are unformatted. That is, they are not yet prepared to hold disk files. In order to copy files or diskettes to blank diskettes, they must first be formatted. Therefore,

You type: Y [RETURN]

At this point, the DUPDSK utility will ask you to:

Insert source disk into drive 1

And hit RETURN when ready

If you specified a destination drive different from the source drive, you will be prompted:

Insert source disk into drive 1

Insert destination disk into drive n

And hit RETURN when ready

Insert the proper source (and destination disk, if using 2 drives) into the proper drive, and

You type: [RETURN]

The light on the front of your disk drive will come on, and the DUPDSK utility will respond by saying:

Reading source disk

If the destination drive is the same as the source drive, you will be prompted:

Insert destination disk into drive n

And hit RETURN when ready

At this time, remove your source diskette from drive 1 and insert a blank diskette. When this has been done,

You type: [RETURN]

The program will respond:

Formatting destination disk

and, after a while,

Writing destination disk

Most of the time, the total information on a diskette is too large to hold in your Atari's memory at one time. This is the case for your DOS XL disk. Therefore, you will be prompted to repeatedly insert your source and destination disks until the duplication is complete. Follow these prompts carefully until the DUPDSK utility responds:

Copy same disk again (Y/N)?

You type: N [RETURN]

At this point, you will be prompted:
Hit RETURN for menu

To return to the DOS XL menu,
You type: [RETURN]

3.4 E - Erase Files

CP equivalent: ERASE (OS/A+ manual section 4.4)

The "Erase Files" command allows you to delete one or more files from a diskette. This command should be used with care, for erased files cannot easily be recovered, if at all.

If you use the "Erase Files" command to attempt to erase a file which has previously been protected (i.e., the file name is preceded by an asterisk in the directory listing), you will be given the error message "FILE PROTECTED". If you desire to erase this file, you must first remove the protection by using the "Unprotect Files" command. Note that protecting files is an excellent way of guarding against accidental erasure.

To use this command, select 'E' when the menu prompts you for a command selection. The menu will then prompt:

Erase Files
Filespec to erase:

You should respond with the name of the file you wish to erase. If you wish to erase a group of files, you may use wild-card characters in the filespec. However, be very sure you know what you are erasing.

You will then be asked:
Are you sure?

If you feel the filespec you entered was correct,
You type: Y [RETURN]

If you wish to abort the "Erase Files" command,
You type: N [RETURN]

If you answered 'Y', all files matching the selected filespec will be removed from the diskette. The menu will then prompt:

Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

----- 3.5 F - Files on Disk -----

CP equivalent: DIRectory (OS/A+ manual section 4.2)

The "Files on Disk" command allows you to view the names of any or all files on a diskette.

To use this command simply select 'F' when prompted by the menu for a command selection. Then insert the desired diskette into one of your disk drives (or drive 1 if you have only one drive). At that point, the menu will prompt:

Files on disk
Filespec:

The filespec required instructs DOS XL which files on the disk to look for and display. The following table gives some examples of filespecs and the corresponding lists of files they display:

Filespec: -----	Files listed: -----
GEORGE	The file having the name GEORGE, if such a file exists.
JUNK.SAV	The file having the primary name JUNK and the extender SAV, if such a file exists.
AB?	Any file not having an extender whose name is three characters long where the first two are AB. This filespec matches ABC, ABX, AB1, etc.
CAT*	Any file whose name begins with CAT. The filespec matches CAT, CATCHER, CATTLE, etc.
JOHN.??X	Any file whose primary name is JOHN and whose extender is three characters long ending in X. This matches JOHN.ABX, JOHN.XXX, etc.
**,*	All files on the diskette. This filespec may be abbreviated by just [RETURN].

- D1: All files on the diskette in
drive 1.
- D2: All files on the diskette in
drive 2.

3.6 G - Go to Address

CP equivalent: RUN

(OS/A+ manual section 4.10)

This command allows you to pass control of your computer to a machine language program already residing in your Atari computer's memory. This program should have previously been loaded into memory using the DOS XL menu "Load File" command, or an equivalent method.

To use the "Go to Address" command, type 'G' when the menu prompt "Enter you selection." appears. At that time, the menu will prompt:

Go to Address
Address:

You should respond with the hexadecimal address of the location in memory you desire to jump to. For example, if a machine language program resides at location \$5000 (the dollar sign indicates hexadecimal), you would respond with "5000". Note that although the number is a hexadecimal value, you should not precede it with a dollar sign when you enter it.

Be sure that the address you enter is correct; for, in general, if you pass control to a location in memory which does not contain the desired machine language program, control of your computer will be lost and the keyboard will "hang". In some cases, hitting the SYSTEM RESET key on your computer's keyboard will return control to you. Most of the time, however, you will be forced to turn off the power to your computer and repeat the boot process.

At this point, control will be passed to the machine language routine located at the desired address. If that routine returns to the menu with a 6502 RTS instruction, you will be asked:

Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

3.7 I - Initialize Disk

CP equivalent: INIT

(OS/A+ manual section 5.12)

The "Initialize Disk" command allows you to format blank diskettes so that you may use them to store program and data files. If you wish to create a bootable diskette rather than just a data diskette, you will normally want to duplicate your DOS XL master disk. In this case you should use the "Duplicate Disk" command rather than the "Initialize Disk" command. If you want to duplicate any of your diskettes using the "Duplicate Disk" command, you do not need to format them first using the "Initialize Disk" command, for the "Duplicate Disk" utility will perform the format operation if you desire.

| The "Initialize Disk" command writes entirely new |
| information to the desired diskette, thus erasing |
| completely all files which previously existed there. |
| Carefully select the diskette to initialize to avoid |
| accidentally destroying your program disks. |

To use this command, select 'I' when prompted for a command selection. At that point, DOS XL will check for the presence of the INIT.COM utility on the diskette in drive 1. If it is not there, you will be prompted:

Initialize Disk
Insert MASTER disk and hit RETURN

after which you should insert your DOS XL master disk and hit the RETURN key.

Then the INIT utility program will be loaded into memory and you will be present with the 4 options of the INIT program. They are:

1. Format disk only
2. Format disk and write DOS.SYS
3. Write DOS.SYS only
4. Exit to DOS XL

NOTE: Option 4, "Return to OS/A+", should be read "Return to DOS XL".

| Normally, you should use the "Duplicate Disk" |
| command to copy your DOS XL master to create a spare |
| bootable disk. However, option 2 of the "Initialize |
| Disk" command may be used to create a bootable disk. |

| The DOSXL.SYS file should be Copied onto that disk |
if it is to be used with an OSS SuperCartridge.

If you wish to create a bootable disk,
You type: 2 [RETURN]

If you wish to create just a data disk,
You type: 1 [RETURN]

You will be asked:
Drive (1,2,3,4):

You should respond with the desired drive number (always
1, if you have only one drive).

You will be asked:
Option n drive n - Are you sure (Y/N)?

If you are happy with your entries so far,
You type: Y [RETURN]

Otherwise,
You type: N [RETURN]

If you typed 'Y', the specified command will be
executed. You will again be presented with the 4
options.

If you have more disks to initialize, repeat the above
steps. Otherwise,
You type: 4 [RETURN]

You will be returned to the DOS XL menu.

3.8 L - Load Binary

CP equivalent: LOAD (OS/A+ manual section 4.5)

The "Load Binary" command allows you to read a binary file from disk into the memory of your Atari computer. This command can be used to load binary object of assembly language programs, or binary data to be used by such programs. The file you wish to load should have previously been written to disk using the DOS XL menu "Save File" command, or an equivalent method.

Do not use this command to load Atari BASIC or BASIC XL programs into memory. Instead, just use the LOAD command from the BASIC cartridge (i.e., after you have been given the "READY" prompt).

To use the "Load Binary" command, type 'L' when prompted to enter your command selection. the menu will then prompt:

Load Binary
Filename:

You should respond with the name of the previously saved file you wish to load. For example, if you wish to load into memory the file "FILE1.OBJ" on drive 1, you should type "D:FILE1.OBJ".

At this point, DOS XL will access the disk to read in the binary file. You will then be asked:

Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

3.9 P - Protect Files

CP equivalent: PROtect (OS/A+ manual section 4.7)

In many cases you will have created files on your disks which you know you will hardly ever need to modify. There is a way to guard these files so that you need not worry about accidentally deleting or modifying their contents. The "Protect Files" command allows you to protect files from renaming, erasure, or modification. These files will then be preceded by an asterisk in a directory listing when you use the "Files on Disk" command. If in the future you desire to remove the protection afforded by this command, you should use the "Unprotect Files" command.

To use this command, select 'P' when the menu prompts you for a command selection. The menu will then prompt:
Protect Files
Filespec to protect:

You should respond with the name of the file you wish to protect. If you wish to protect a group of files, you may use wild-card characters in the filespec.

At this point the disk will be accessed and the files will be protected. The menu will then prompt:
Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

----- 3.10 Q - Quit to DOS XL -----

CP equivalent: none

The "Quit to DOS XL" command is used to pass control from the DOS XL menu to the DOS XL command processor. Although almost all the functions you need from DOS may be accomplished from the DOS XL menu, certain commands and features are accessible only from the command processor mode.

To use this command, type 'Q' when prompted by the menu to enter a command selection. At that point, control will be transferred to the command processor mode. In place of the menu, the prompt "D1:" will appear at the upper left corner of the screen. Refer to section 4 for more information about the DOS XL command processor.

----- 3.11 R - Rename File -----

CP equivalent: RENAME (OS/A+ manual section 4.9)

The "Rename File" command may be used to change the file name associated with a file of information. This command does not alter or delete any information contained in the file. Rather, the file will only show up with a different name in the directory listing when using the "Files on Disk" command.

| If you attempt to rename a file which has been |
| protected against modification (i.e., the file name |
| is preceded by an asterisk in the directory |
| listing), you will be given the error message "FILE |
| PROTECTED". If you desire to rename this file, you |
| must first remove the protection by using the DOS XI |
menu command, "Unprotect Files".

To use the "Rename File" command, select 'R' when the menu prompt, "Enter your selection." appears. You will then be asked:

Rename File
Old name:

You should respond with the current name of the file whose name you wish to change. For example, if you want to change the name of the file "D:GEORGE" to "D:PROG1", you should type "D:GEORGE".

The menu will then respond,
New name:

At this point you should type the new name you wish the file to have. In the above example, you should type "PROG1" at this time. Notice that you must NOT use a device specifier (i.e., D:, D2:, etc.) in the new name; you should type just "PROG1", not "D:PROG1".

You will then be asked,
Are you sure?

If you are satisfied that you have entered both file names correctly,
You type: Y [RETURN]

If instead you wish to abort the rename operation,
You type: N [RETURN]

If you answered with 'Y', the designated file will be renamed, and you will be prompted:

Hit RETURN for menu

To return to the list of menu commands,
You type: [RETURN]

You should respond with the hexadecimal value of the first address you wish to write to disk. In the above example, the starting address was \$4000 so you should type "4000". Note that although the value is hexadecimal, you should not precede the number with a dollar sign.

The menu will then prompt:
Ending address:

You should respond with the hexadecimal value of the last address you wish to save. In the previous example, you should enter "4100".

At this point, DOS XL will access the disk to write out the binary file. You will then be asked:
Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

----- 3.13 T - To Cartridge -----

CP equivalent: CARtridge (OS/A+ manual section 4.1)

This command allows the user to enter a cartridge, if one has been inserted.

| If you are using the Atari BASIC cartridge, please |
| refer to chapter 7 of the OS/A+ manual for those |
| commands which may be used from BASIC to access the |
| disk. For those of you already familiar with Atari |
| BASIC under Atari DOS 2.0s, please not that disk |
access is identical under DOS XL.

To use this command, select 'T' when prompted by the menu for a command selection. At that time, you will enter the cartridge and see the familiar READY prompt of BASIC, or the prompt for the particular cartridge you are using. If no cartridge was inserted, the error message NO CARTRIDGE will be displayed.

| If the "To Cartridge" command is used after any of |
| the following commands are selected: |

| Copy Files
| Duplicate Diskette
| Initialize Diskette
| Xtended Command
| Load Binary

| a coldstart will be performed by the cartridge, thus
| erasing any program which was in memory. Therefore,
| if you wish to go to the menu to execute any of
| these commands, remember to first write any program
| you are working on to disk. This is accomplished in
| Atari BASIC or OSS BASIC XL by using the SAVE
command in the BASIC cartridge.

3.14 U - Unprotect Files

CP equivalent: UNProtect (OS/A+ manual section 4.14)

The "Unprotect Files" command allows files to be renamed, erased, or modified, thus removing protection applied by the "Protect Files" command. These files will no longer then be preceded by an asterisk in a directory listing when you use the "Files on Disk" command.

To use this command, select 'U' when the menu prompts you for a command selection. The menu will then prompt:

Unprotect Files
Filespec to unprotect:

You should respond with the name of the file you wish to unprotect. If you wish to unprotect a group of files, you may use wild-card characters in the filespec.

At this point the disk will be accessed and the files will be unprotected. The menu will then prompt:

Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

3.15 X - Xtended Command

CP equivalent: none

This command may be used to pass a command line to the DOS XL command processor. Although almost all the functions you need from DOS may be accomplished from the DOS XL menu, certain commands and features are accessible only from the command processor mode. The "Xtended Command" function of the DOS XL menu may be used to access from the menu those commands available only from the command processor. Please refer to section 4 for information about the commands and features of the DOS XL command processor.

To use the "Xtended Command" function, select 'X' when prompted by the menu "Enter your selection.". At that time, the menu will prompt:

Xtended Command
Command:

You should respond with the DOS XL command you wish to have executed. For example, if you wish to use the "RS232" command, you should type "RS232".

| Many of the DOS XL commands accessible by the |
| "Xtended Command" function perform their operations |
| by loading utility programs on the DOS XL master |
| disk. If you wish to use a command which employs a |
| utility program (any "extrinsic" command, see OS/A+ |
| manual chapter 5), you should insure that your |
DOS XL master disk is first inserted into drive 1.

At this time, the desired command will be passed to the DOS XL command processor and executed. When that is finished, you will be prompted:

Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

Section 4: THE DOS XL COMMAND PROCESSOR

Whenever you enter the DOS XL command processor, the following message will appear on the screen:

```
DOS XL - Atari version 2.20
copyright (c) 1983 OSS, Inc.
```

Dl:

The "Dl:" which appears to the left of the cursor is the prompt for the command mode. In this mode you are expected to type in a complete command line rather than simply a command selection. For example, to load the DUPDSK.COM utility (for duplicating single density diskettes), the DOS XL command line is "DUPDSK", rather than a single character as in the menu mode. It is also possible to write your own commands to be used from the DOS XL command processor or the "Xtended Command" menu function. For more information on this capability, refer to chapter 8 of the OS/A+ manual.

Certain features of DOS XL such as batch processing are available only from the DOS XL command processor. For information on batch processing and execute files, please refer to chapter 6 of the OS/A+ manual.

In order to return to the DOS XL menu from the command processor, insert your DOS XL master disk into your disk drive (or drive 1, if you own more than one drive). Then, from the Dl: prompt, You type: MENU [RETURN]

The DOS XL menu program will be loaded and executed.

Please refer to chapter 2, sections 2.1, 2.2, and 2.7, and chapters 4 and 5 of the OS/A+ manual for more information about the DOS XL command processor.

Section 5: THE DOS XL BOOT PROCESS

The process of loading the DOS XL operating system into your Atari's memory is somewhat different than the process for loading other DOS's. Also, deleting or adding certain files to a bootable disk can affect what portions of DOS XL are loaded. In order for you to modify this process and thereby customize your system, this section describes the steps which are followed in the boot process.

5.1 The DOSXL.SYS file

While most DOS's reside only in the DOS.SYS file on a bootable disk, DOS XL actually occupies two separate files. The first file, DOS.SYS must be on any disk to make it bootable. At the beginning of the boot process, this file is loaded into memory, occupying locations \$700 to \$1E00. At that time, this DOS (it is actually a complete DOS in itself) checks to see if an OSS SuperCartridge is inserted. If not, the DOS begins to scan for the AUTORUN.SYS file (see below). If a SuperCartridge is inserted, the DOS tries to load the DOSXL.SYS file off of the disk. If this file is found, it is loaded into locations \$700 to \$A00 and \$A400 to \$BA00 (this segment shares memory with the cartridge). This newly loaded code becomes the DOS of the machine. This DOS saves the user 5K of memory by occupying memory which is bank-switched with the SuperCartridge by taking advantage of special hardware within the cartridge. If you desire not to load this special DOS file, DOSXL.SYS, simply rename the file to a name other than DOSXL.SYS (perhaps SAVXL.SYS).

5.2 The AUTORUN.SYS file

Once the DOSXL.SYS file is either loaded or skipped, DOS XL searches the disk for a file called AUTORUN.SYS (note that there is no such file on the DOS XL master disk). If this file is found, it is loaded into memory just as if you had issued a "Load Binary" menu command. For example, one way to insure that the RS232 drive is loaded into memory each time you boot a certain disk is to rename the file "RS232.COM" to the name "AUTORUN.SYS" (see also the section on the file "RS232FIX.COM").

----- 5.3 The STARTUP.EXC file -----

If the file AUTORUN.SYS is not found, or if it returns to DOS with a 6502 RTS instruction, DOS XL continues the boot process by searching for the file STARTUP.EXC. This file is a text file which contains commands to the DOS XL command processor. On your DOS XL master disk there is a STARTUP.EXC file which contains REM commands for just putting messages to the screen, and the command MENU, which loaded and started the DOS XL menu (see the following section for another method of loading the menu). In order to change the contents of this file, just use the "Copy Files" option of the DOS XL menu and select "E:" and "D:STARTUP.EXC" as the "From" and "To" files, respectively. When the screen clears and the cursor appears at the upper left of the screen, type the desired commands, one to a line. When you are finished, type control-3 (hold down the control key and press 3). The commands you typed will then be written out to the disk into the STARTUP.EXC file. If you desire not to have a STARTUP.EXC file, simply erase it or rename it to a different name (perhaps STARTUP.TXT, for "text file").

| Certain cartridge-based products, including ATARI |
| WRITER from Atari, Inc., will not work properly if |
| your boot disk contains a STARTUP.EXC file. If you |
| are using a product such as ATARI WRITER, make a |
| special boot disk as follows: |

- | 1) Duplicate your master disk onto a blank one. |
- | 2) Erase the file STARTUP.EXC on that disk. |
- | 3) Erase the file MENU.COM on that disk. |

| (only if you want more memory space) |

| You should now use this disk for booting into ATARI |
| WRITER (you may use this disk for booting into other |
| products, but you will not have the menu if you go |
to DOS).

----- 5.4 The MENU.COM file -----

If the STARTUP.EXC file is not found, the final step of the boot process is the loading of the DOS XL menu. The DOS will search the disk for the file MENU.COM. If that file is found, it is loaded into memory in the lowest available address (the current value of the MEMLO pointer, locations \$2E7 and \$2E8) and will be in control at the end of the boot process. If the file MENU.COM is not found, the DOS XL command process will be in

control. At that point, if there is a cartridge inserted, it will be entered. Otherwise, the DOS XL menu or the DOS XL command processor, depending on which has control of the system, will be entered.

Section 6: DOS XL AND THE 850 INTERFACE MODULE

6.1 Loading the RS232 handler

When using Atari DOS 2.0s, the only way to load the RS232 device handler (Rn:) from the 850 interface module is through the use of an AUTORUN.SYS file (see section 5.2). This option is also available to DOS XL users. Another option is, however, available to you. After booting DOS XL, you can simply issue the following commands:

1) from the DOS XL menu:

You type: X

and then, when prompted for a command,

You type: RS232 [RETURN]

2) or, from the DOS XL command processor:

You type: RS232 [RETURN]

This sequence of commands will cause the RS232 device handler to be loaded into the system. You can then refer to the 4 RS232 ports on the 850 interface module as "R1:" through "R4:", respectively.

6.2 Bugs in the RS232 driver

Unfortunately, the device handler which loads in from the 850 interface module is not perfect. The most serious flaw occurs when you push SYSTEM RESET after the RS232 driver has been loaded into memory. Under certain circumstances, your Atari computer will "hang", freezing the keyboard, after pressing that key. For this reason, many Atari reference books recommend that you NEVER press SYSTEM RESET after loading the RS232 driver. Under DOS XL, however, there is a solution to this and other problems. On your master disk there is a file called "RS232FIX.COM". This file is almost identical to the "RS232.COM" file which is normally employed to install the RS232 handler. The fixed version attempts to correct some of the known bugs in that handler.

You may ask, "Why not just include the correct version on the DOS XL master disk?" Well, Atari has produced several versions of the 850 interface module. OSS has almost no way of knowing whether the corrected version works with all such revisions so, rather than

introducing new problems, both the original and the fixed version are included.
To test the "RS232FIX.COM" file with your 850 module, either:

1) Using the DOS XL menu:

You type: X

When prompted for a command,

You type: RS232FIX

2) or using the DOS XL command processor:

You type: RS232FIX [RETURN]

If the RS232 handler loaded in this way seems to work properly, you may use it exclusively for loading the RS232 handler, ignoring the original RS232 command.

Section 7: MOVING UP TO DOUBLE DENSITY

DOS XL is compatible with all double density drives currently available for the Atari (with the exception of the Atari 1050 drive, which is not really double density). In order to use DOS XL in double density mode on your drive, you should first create a double density master disk. During this operation, you must perform certain commands from the DOS XL command processor, rather than the menu. You should read section 4 and the portions of the OS/A+ manual it references before performing the double density transfer.

From the DOS XL menu,
You type: Q

You will then be placed in the DOS XL command processor mode. At this point, you should follow the directions in section 3.10 of the OS/A+ manual in order to copy the contents of your DOS XL master diskette onto a blank double density diskette.

After you have completed transferring your DOS XL master disk to double density, you may use it, or duplicates of it, as your double density boot disk. In order to create double density data disks, just use the "Initialize Disk" menu option after booting the double density DOS XL master disk.

CAUTION!

The following commands should not be used from the menu:

CONFIG SDCOPY INITDBL

These commands alter the density selection(s) for the disk drives and thus alter the amount of memory used for disk buffers. To be safe, always use them only from the DOS XL Command Processor.

SPECIAL INSTRUCTIONS: FOR 2 DRIVE SYSTEMS

If you own 2 drives, you may instead use the standard "Copy Files" command to transfer files from single density to double density. First, however, you must tell your drives that you want one to be single density and the other double density. To perform this operation you should use the DOS XL CONFIG command (see section 5.5 of the OS/A+ manual).

As an example ONLY, to set your drives so that drive 1 is single density and drive 2 is double density, you should exit from the menu and perform the appropriate CONFIGuration command from CP as follows:

Boot your DOS XL single density master disk into drive 1.

Then, from the menu,

You type: Q

When the CP prompts:

D1:

You type: CONFIG 1S 2D [RETURN]

The disk will be accessed, loading in the CONFIG.COM utility program. After a moment, a table will be printed out showing all of the drives in the system and their current configurations. Drives which do not handle double density will be shown as "Can't configure".

Then, in response to the D1: prompt, you may use the COPY utility to copy files from a single density disk in drive 1 to OR from a double density disk in drive 2. If you prefer, you may instead type MENU in response to the D1: prompt and then use the C (Copy Files) option of the menu to perform the transfers.

